

ABSTRACT OF THE DISCLOSURE

A new method is disclosed for producing thin plates by sintering a thin gel plate (*e.g.*, silica) made using a sol-gel process, which substantially eliminates warpage of the plate during the sintering step. Sintering a sol-gel based silica plate to a dense glass typically causes significant shrinkage, and this can cause the plate to curl, especially around its edges. This phenomenon is referred to as warpage. In the method of the invention, the sintering step is performed while the gel plate is mounted on a support surface, separated by a thin layer of refractory powder. At the high sintering temperature, the powder partially fuses and sticks to both the gel plate and the support surface, which prevents non-uniform stresses in the gel plate from warping the plate.